



# Metro Area Water Supply Plan Update



Metro Area Water Supply Advisory Committee | November 14, 2023 | Lanya Ross and Jen Kader

# Goal for today: MAWSAC input on MWSP



## Topics

- Acknowledge proposed shift in MWSP outline
- Update on the subregional engagement effort
- Input on draft regional dashboard measures
- Next steps

# Potential revision to Metro Area Water Supply Plan content Part 4 (draft)



## Part 1 Desired Outcomes

- Rational and approach to regional water supply planning
- Connection to regional goals and objectives in the Water Policy Plan
- Regional desired outcomes with 2050 water supplies in mind

## Part 2 Regional Commitments

- Connection to regional policies in the Water Policy Plan with more detail around water supply-related actions

## Part 3 Regional Dashboard Measures

- Regional summary of information that provides context for water supply planning, describes the current state of sustainable water supply practices, and supports the development of measurable and trackable regional targets

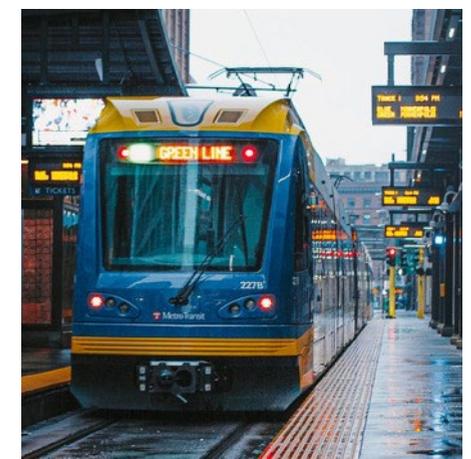
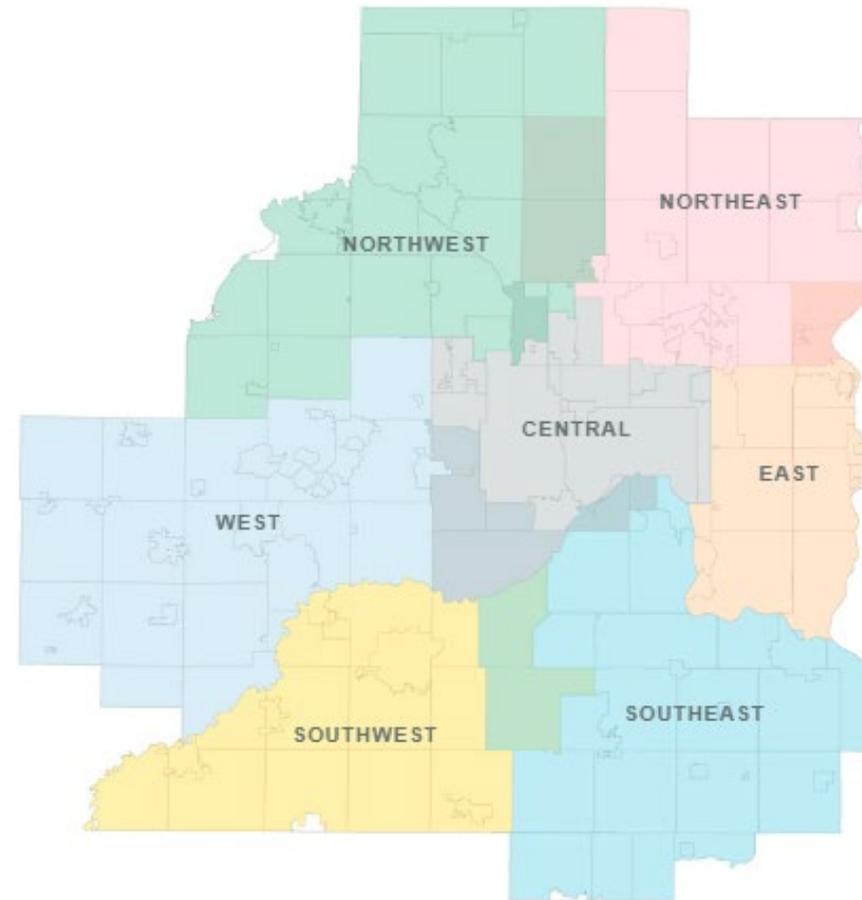
## Part 4 Subregional Info

- Subregional information related to water, land use, and other factors
- Key water supply issues, risks and opportunities identified by stakeholders
- Implementation needs (high-level)

# General content

## Each subregional chapter will include the following:

- Context and current conditions
  - Definition of success
  - Issues and barriers
  - Strategies to address them
    - Practices
    - Policies
    - Partnerships
- 
- Timeline/sequencing
  - Resources needed to sustain effort towards success over time



# Reminder of approach

## Gather data and design approach

- Determine subregion boundaries
- Harvest themes and information from completed work
- Identify internal leads for each subregion and collaboration approach
- Establish core teams for each subregion

*May-June*

## Engagement within subregions

- Host core team kick-off
  - Add to participant list
  - Confirm how to host conversations
- Host broader stakeholder conversations (2-3 in each subregion)

*July-December/January*

## Develop draft MWSP content

- Develop draft content for subregional chapters based on engagement
- Check for completeness and accuracy at MAWSAC/TAC and WAG, with subregional representation
- Articulate continued collaboration approach

*December-March*

# General, high-level approach

## Gather data and design approach

- Determine subregion boundaries
- Harvest themes and information from completed work
- Identify internal leads for each subregion and collaboration approach
- Establish core teams for each subregion

*May-June*

## Engagement within subregions

- Host core team kick-off
  - Start to build participant list
  - Confirm how to host conversations
- Host broader stakeholder conversations (likely 2-3 in each subregion)

*July-November*

## Develop draft MWSP content

- Develop draft content for subregional chapters based on engagement
- Check for completeness and accuracy at MAWSAC/TAC and WAG, with subregional representation
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*December-February*

# Core team kick off meetings (1 of 2)

## Refining engagement design

- Light structure pre-set
- Discussion to identify or amend:
  - Specific need and purpose
  - Expectations for engagement and all parties involved
  - Possible participants and degree of involvement
  - General idea for how to approach the effort
  - Possible pitfalls and corrective strategies
- Follow up: confirmation of themes and summary from meeting, review of proposed approach detail
- Then, participant contact info ID and invitations!

# Core team kick off meetings (2 of 2)

## Refining engagement design

- Light structure pre-set
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# What is the need for this work? (1 of 2)



## What we shared with them

- The region as a whole is expected to grow by more than 600,000 people by 2050
- Everything that happens on land impacts water, and all water connected
- The climate is changing—warmer, wetter, drier, and more extreme storms
- Communities rely on sufficient, reliable, and safe water supply for health, prosperity, and the function of local ecosystems

# What is the need for this work? (2 of 2)



## What they shared with us

- General agreement with the four statements, AND
  - Emphasis on the need for a sustainable water future— “ensure there is enough water for future growth”
  - "Water is life"
  - "Water is a human right"
  - Importance of managing for humans and ecosystems alike
  - The value in calling out human impact

# What does success look like for the Metro Area Water Supply Plan itself?



## What we've heard so far

- Shared vision or “line of sight” within subregions
- Actionable, implementable plan – something useful that makes a difference and can attract funding
- Collaboratively developed, with buy-in from all
- Enhanced relationships and trust between communities and with Met Council
- Reflects an integrated water management approach
- Prioritized actions, while still reflecting nuance within subregions
- Adaptive
- Connected to other subregions—not siloed
- Supporting informed decisions from a variety of actors, resulting in system and individual behavior changes

# Next steps for subregional engagement



## Host the broader engagements

- All subregions have had their kickoffs
- Co-designed approaches being proposed
- Engagements getting scheduled
- Invitations beginning to roll out
- First subregional workshop held

# Potential revision to Metro Area Water Supply Plan content Part 3 (draft)



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## Part 2 Regional Commitments

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## Part 3 Regional Dashboard Measures

- Regional summary of information that provides context for water supply planning, describes the current state of sustainable water supply practices, and supports the development of measurable and trackable regional targets

## Part 4 Subregional Info

- Subregional information related to water, land use, and other factors
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- Implementation needs (high-level)

# MAWSAC action requested



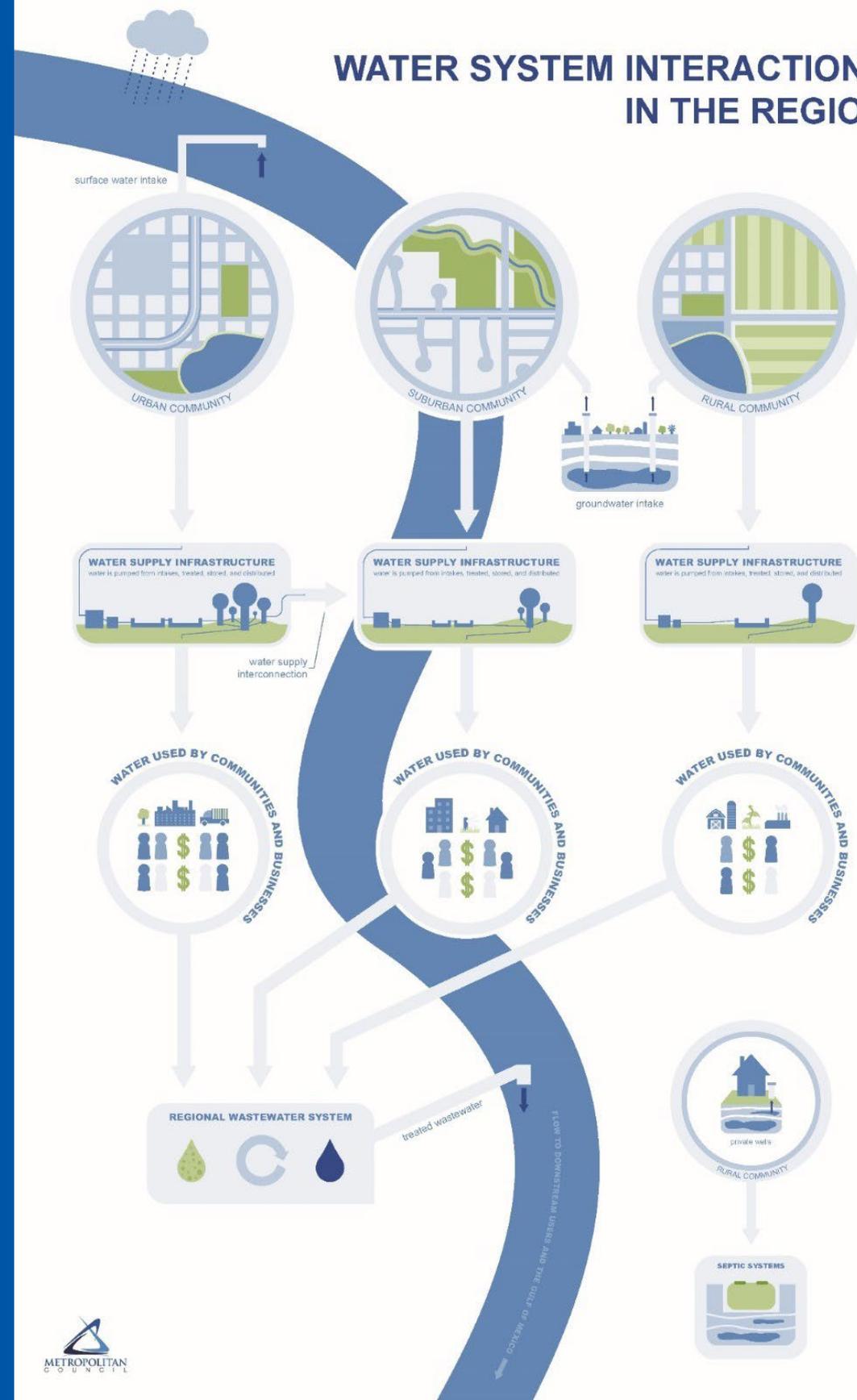
## Provide input on measures

What kinds of information would you look for to understand:

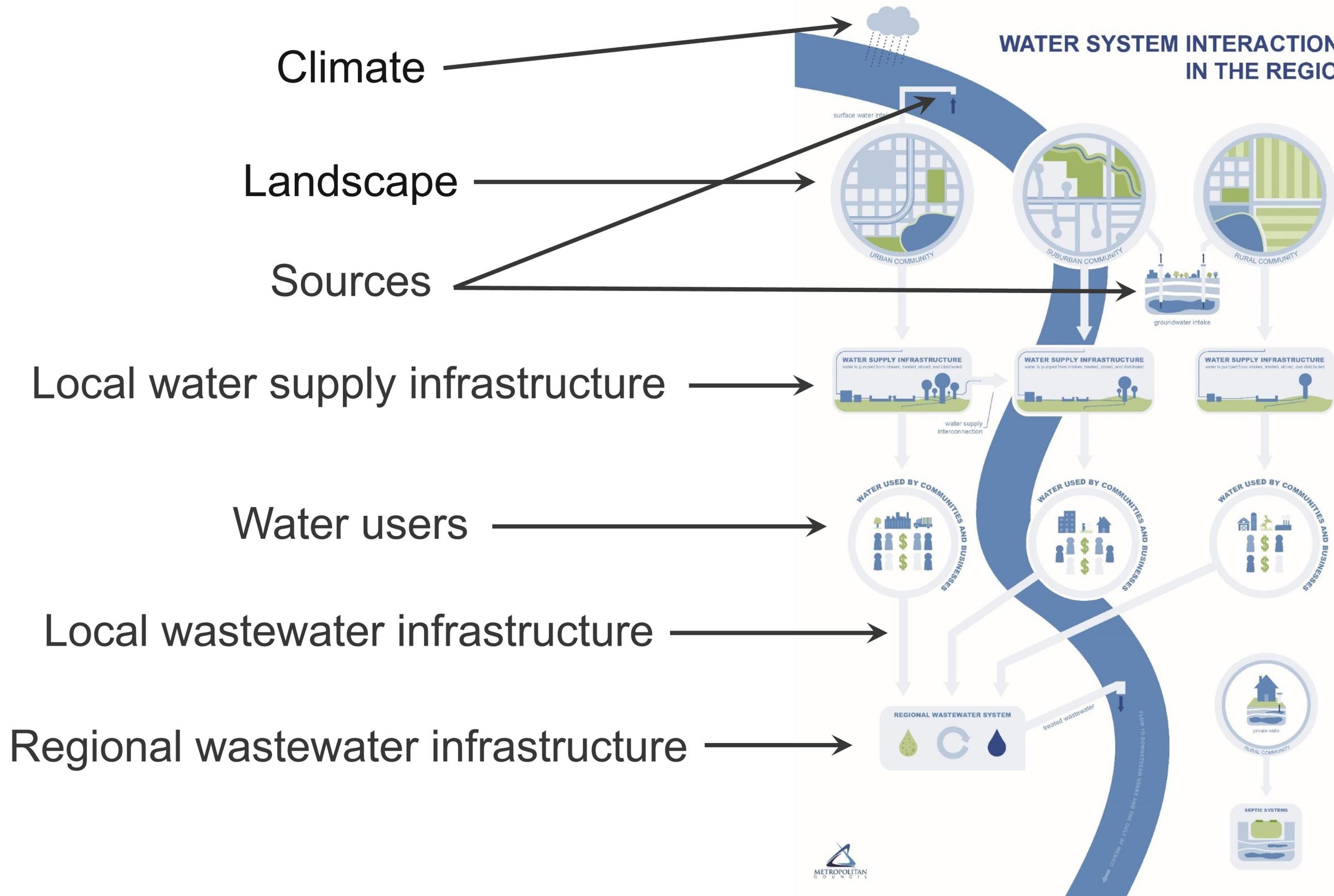
- What progress are we making through our regional commitments?
- Are we moving toward a sustainable water supply for the region?

Across all the region's  
water supply parts →

What measures  
illustrate water supply  
conditions, hazards,  
and sustainable  
outcomes?



# WATER SYSTEM INTERACTIONS IN THE REGION



# GROUP ACTIVITY: exploring dashboard measures to communicate about water supply conditions, hazards, and sustainable outcomes

<i>For all = what investments, actions, outcomes?</i>	<b>Collaborate and build capacity</b>	<b>Assess the region's water supplies</b>	<b>Evaluate hazards and risks</b>	<b>Evaluate mitigation measures</b>
<b>Climate</b>	Subregional work group activity Technical assistance for local planners  	<u>Minneapolis/St. Paul climate</u>	<u>Drought monitor</u> <u>River monitor</u> (flood)  	Community awareness of drought and flood conditions (web hits) Local controls for water conservation (ordinances, <u>rates</u> , etc.) <u>Mutual aid agreements</u> and <u>interconnections</u> <u>Tree canopy</u>
<b>Landscapes and sources</b>	Subregional work group activity Technical assistance for local planners  	<u>Land use</u> and associated contaminants # of <u>building permits</u> (density/distribution) Groundwater quality ( <u>MPCA</u> , <u>MDA</u> ) <u>Surface water quality</u> Sustainable limit of sources (use <u>MC estimate</u> ?) Recharge estimates <u>Groundwater levels</u>	<u>Land use change</u> that increases contaminants in <u>DWMSAs</u> Widespread gw declines and near sensitive resources <u>Well interference</u> , conflicts Emerging <u>sw</u> & gw quality issues, trends Increased # priority waters on the <u>impaired waters list</u> Impervious surfaces limit recharge, increase runoff  	Local controls for source water protection and conservation Source water protection <u>BMP grants</u> in metro DWMSAs Acres and practices in the <u>Agricultural Preserves</u> program Contaminant site clean up through <u>Tax Base Revitalization Account</u>
<b>Local water supply infrastructure</b>	Number of community rate payer assistance programs Customer confidence and satisfaction (Survey?) <u>Interconnections</u> and <u>mutual aid agreements</u> <u>Number of licensed water operators</u> Subregional work group activity Technical assistance for local planners	Firm capacity of existing infrastructure (MDH) Miles of pipe installed/replaced (how to document?) Current treatment in place (MDH) Number public and private wells drilled (MWI)	Firm capacity versus future demand <u>PWS water quality violations</u> Age of infrastructure (how to document?) Unused wells in DWMSAs	<u>Interconnections</u> and <u>mutual aid agreements</u> for resilient supply <u>Funding</u> awarded for treatment, addressing lead Reuse infrastructure (how to document?) Number of unused wells sealed (MWI)
<b>Water users</b>	Customer confidence and satisfaction (Survey?) <u>Number of licensed water operators</u> Subregional work group activity Technical assistance for local planners	<u>Residential, industrial, business use</u> (current and future) Total Per capita water use <u>Total water use of gw versus sw sources</u> <u>Water rates</u>  	<u>Well interference</u> <u>Ratio of indoor versus outdoor water use or max day pumping</u> Use compared to capacity and to estimated sustainable limits	Water efficiency grants/activities funded (grant program reporting) Local controls for water conservation (ordinances, <u>rates</u> , etc.) Setting and tracking progress against regional goal (ex: 90 gpcd)
<b>Local wastewater infrastructure</b>	<u>Number of licensed wastewater operators</u> Subregional work group activity Technical assistance for local planners	I & I estimates (MCES data)	<u>Wastewater spills; actions leading to MPCA permit enforcement</u>	<u>Funding</u> awarded for treatment
<b>Regional wastewater infrastructure</b>	Task forces established with local stakeholders Subregional work group activity Technical assistance for local planners	Volume of water treated at regional facilities (MCES data) Regional system condition (MCES data)	<u>Wastewater spills; actions leading to MPCA permit enforcement</u>	Volume of water recharging groundwater (MCES data)  

# What existing resources could we tap into (example: 2015 MWSP profiles)

## Overview of water system and use in the community

The community owns and operates their own water supply system, as well as supplying water to additional communities.

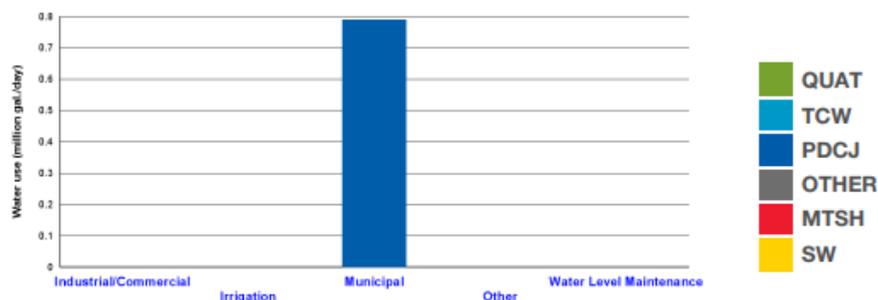
## Available approaches to meet current and future demand

1. Conservation
2. Groundwater sources
3. Stormwater reuse
4. Reclaimed wastewater
5. Enhanced recharge
6. Surface water sources

## Number of active public and private DNR-permitted wells and surface water intakes that provide water to residents and businesses in the community

Source	Municipal Wells or intakes in the community	Non-Municipal Wells or intakes in the community	Municipal Wells or intakes outside the community
Mt. Simon-Hinckley (MTSH)	0	0	0
Prairie du Chien-Jordan (PDCJ)	2	0	0
Quaternary (QUAT)	0	0	0
Tunnel City-Wonewoc (TCW)	0	0	0
Multi-aquifer (MULTI)	2	0	0
Surface Water (SW)	0	0	0

## Amount of water used, on average, by water appropriation permit holders in key water use categories (chart will be blank if no DNR-permitted wells or intakes provide water in the community)



## Municipal Water Use

**Municipal water treatment:** Fluoride, Iron/Manganese Sequestration, Disinfection

**Rate structure:** Flat and Increasing Block depending on customer classification

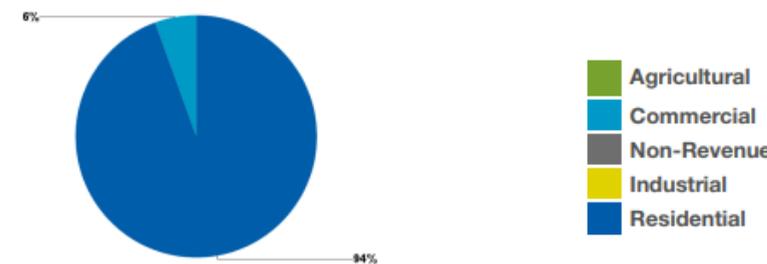
**Permitted amount in 2012:** 315 (million gallons/year)

**Reported use in 2012:** 296 (million gallons/year) 0.81 (million gallons/day)

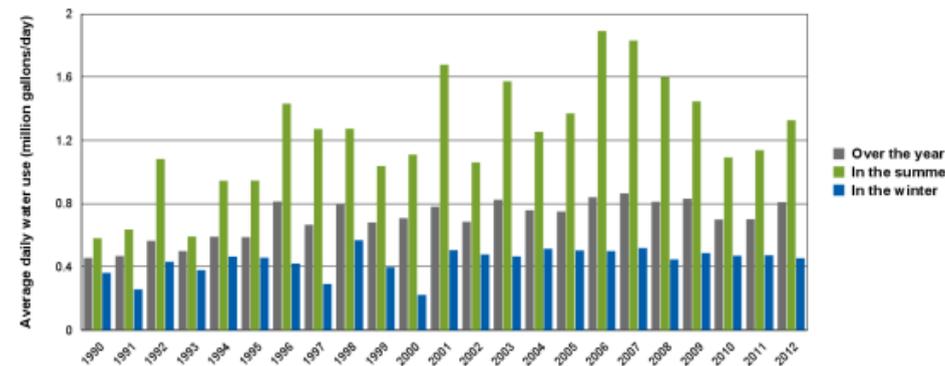
**Note:** this may be higher than permitted amount if, for example, water is purchased from a neighbor

**Residential water use per person in 2012:** 95 gallons per person per day

## Water use by major categories in 2012



## Historical municipal water use in the community



## Projected municipal water use

	2020	2030	2040
Population Served	7,131	7,031	7,031
Total Population	7,800	7,700	7,700
Projected Average Daily Water Use (Million Gal./Day), Plus or Minus 20%	0.81	0.79	0.79
Total Per Capita Water Use (Gal./Person/Day)	113	113	113
What per capita water use would be, if population grew without changing total water use:	114	115	115

## Water resource plans and permits that address the following issues support more sustainable water supplies

- State and federal requirements, such as Safe Drinking Water Act standards, conditions identified on water appropriation permits issued by the DNR, water quality permits issued by the MPCA and others
- Potential for water use conflicts and well interference
  - Due to the pervasiveness of private wells in the metro area, there exists a potential water use conflict and well interference of all appropriators
- Potential for impacts of groundwater pumping on surface water features and ecosystems
  - A state-designated trout stream has been mapped nearby
  - Surface waters in this area may be directly connected to regional groundwater system
- Significant vulnerability to contamination
  - A sinkhole (karst) has been mapped nearby
  - A vulnerable Drinking Water Supply Management Area has been designated in the area
  - Travel time from land surface to bedrock aquifers is estimated to be less than 50 years
- Significant uncertainty about aquifer productivity and extent
  - Part of the area may not be well-represented by a Minnesota Department of Health aquifer test
  - The county geologic atlas is more than twenty years old
  - Part of the area may not be represented by a Minnesota Department of Natural Resources or community observation well
- Regulatory considerations
  - A Groundwater Management Area has been designated within the community

**Note:** Local studies may be underway or completed to provide more information about these issues.

The Metropolitan Council's Local Planning Handbook contains interactive maps of all of these issues, and they are also summarized in Chapter 5 of this Master Water Supply Plan.

## As appropriate, incorporate the following actions into plans and programs, consistent with your organization's roles and responsibilities

- Acknowledge the issues above and support partnerships to address them in local water supply plans and water appropriation permit applications.
- Explore and support water demand (water conservation) programs such as incentives, ordinances, education and outreach, rates and other approaches. The Metropolitan Council Water Conservation Toolbox can support these efforts.

# Examples of state datasets that did not exist or were not online 10 years ago

[New online datasets from the U.S. Drought Monitor for Minnesota](#)

[DNR Watershed Health Assessment Framework](#)

[More obwell locations and monitoring frequency on DNR Cooperative Groundwater Monitoring](#)

[More data available on the MPCA groundwater monitoring website](#)

[MDA Fall Nitrogen Fertilizer Application Restrictions](#)

[MDH Source Water Protection Web Map Viewer](#)

[MDH Source Water Assessments](#)

[MDH Minnesota Public Health Data Access – Drinking Water Quality](#)

[DNR Water Conservation Reporting System](#)

[BWSR State-Funded Best Management Practices \(eLINK\)](#)

# Overall process timeline and next steps

## Upcoming work

- Revise draft content based on MAWSAC, TAC and Met Council staff input
- Fall engagement to support subregional chapters
- TAC and MAWSAC input to water policy development and projects
- Development and approval of Metro Area Water Supply Plan

Thank you!

**Lanya Ross**

Environmental Analyst, Water Resources

[Lanya.Ross@metc.state.mn.us](mailto:Lanya.Ross@metc.state.mn.us)

651-602-1803

**Jen Kader**

Senior Planner, Water Resources

[Jen.Kader@metc.state.mn.us](mailto:Jen.Kader@metc.state.mn.us)

651-602-1114

